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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,417	02/03/2005	Kaisa Putkisto	METSO-23	6312
36528	7590	05/02/2006	EXAMINER	
STIENNON & STIENNON 612 W. MAIN ST., SUITE 201 P.O. BOX 1667 MADISON, WI 53701-1667			PARKER, FREDERICK JOHN	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/507,417

Applicant(s)

PUTKISTO ET AL.

Examiner

Frederick J. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

#### ***Specification***

The amendments and explanations in response to the Objections to the specification of the Previous Office Action are acknowledged and appreciated, and the Examiner withdraws the objections.

#### ***Claim Rejections - 35 USC § 112***

1. Claims 5,8,11,14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 5 & 11, the specifically cited spatial relationship between 2nd and 3rd electrode from the substrate being less than the 1<sup>st</sup> distance is not present in the original filing or PCT. In claims 8 & 14, the specifically cited spatial relationship between 1st and 2nd electrode from the substrate being less than the 1st distance is not present in the original filing or PCT. The limitations are thus deemed new matter. The Examiner holds that the figures are not to scale and therefore cannot be used to support the limitation. No statement of where support is found was provided by Applicants for the amended claims.

Applicants did not persuasively point out where this spatial relationship is present in the original filing as presented in the claims. Specifically there is nothing that discloses the spatial relationship between 2nd and 3rd electrode from the substrate being less than the 1<sup>st</sup> distance is not present in the original filing or PCT.

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2. Claims 5,8,11,14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation of the nozzle being positioned between a corona electrode upstream of the nozzle and a corona electrode downstream of the nozzle is not present in the original filing or PCT. Figures 1 &2, and at least [0003] illustrate the spatial relationships between the nozzle and other electrodes outside the nozzle. No statement of where support is found was provided by Applicants for the amended claims.

Applicants did not persuasively point out where this spatial relationship is present in the original filing as presented in the claims. Specifically there is nothing that discloses the existence of there being a nozzle positioned between 4<sup>th</sup> and 5<sup>th</sup> corona discharge nozzles.

3. Previous rejections under headings below are withdrawn unless repeated, and may include new rejections necessitated by amendment.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. Claims 5,8,11,14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 5,8,11 and 14 are vague and indefinite because it is unclear how particles can be pre-charged by moving corona charged particles past a charging electrode of opposite potential without neutralizing or at least reducing the charge on the particles, which is detrimental to electrostatic attraction; it is unclear and contradictory how 1<sup>st</sup> and 2<sup>nd</sup> pre-charging electrodes can be spaced at a distance LESS than the distance d1 between substrate and nozzle because a pre-charging electrode would necessarily be BEFORE powder exits the nozzle (as also provided by the claim which explicitly requires the electrode to be UPSTREAM of the nozzles, thus >d1), so its distance must exceed d1; in the “wherein” statement, it is unclear if the potential of the grounding electrode is lower or opposite in sign to each of, or the sum of, the potentials of the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> electrodes.

- Claims 5,8,11,14 are vague and indefinite because the relationship between three of what appears to be at least four electrodes is unclear (position of the backing electrode behind the web is clear).

*The Examiner notes he went to great lengths to sketch out and understand the spatial relationships as claimed to arrive at the rejections above. It is suggested that in a subsequent continuation Applicants more specifically and clearly define electrodes in relation both to the nozzle (inside, outside, adjacent, etc) and other electrodes, as well as to elucidate how the electrodes take part into the method.*

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 5-7,11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher US 3521558.

Fisher teaches to electrostatically apply particulates to dielectric substrates (encompassing paper or board which are dielectric), one embodiment comprising planar substrate 21 with a conforming backing plate electrode 17,36 of positive charge. Powder coating particles are entrained in air and launching charge electrodes 33 of negative charge pre-charge particles prior to their leaving the dispenser through apertures 28 toward oppositely charged substrate 21. Charged mask 18 through which the charged powder stream travels between the dispenser and substrate is an electrode by virtue of its applied charge. The series of electrodes collectively form a field which is maintained “in any suitable manner” to maintain “suitable voltage potentials or differentials” (col. 4, 8-29). It would have been apparent that the electrodes 18,33 are corona type electrodes given their description even if not so named by the reference.

This, in accordance with the reasonable interpretation of the claims, powder is pre-charged and then dispensed, and flowed through a second electrode (charged mask) located between the launching electrode and substrate with backing electrode 17,36, the latter being opposite in charge to that of the launching electrode of powder feed means and the mask/ electrode.

Spacing of electrodes relative to the substrate would have been an obvious variation which would have been determined by routine experimentation, particularly given the teachings of col.

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While the grounding electrode is not stated to be a rotating roll, the shape of substrates on col. 1, 36-43 includes curvilinear surfaces, flat sheets, etc so that modification of the backing electrode to be conformable in shape to the substrate to optimize electrostatic effects would have been an obvious variation within the purview of one of ordinary skill.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the electrostatic powder coating of dielectric substrates (e.g. paper, board) using plural electrodes as taught by Fisher and further optimizing spacing between electrodes and substrate to produce patterned powder coatings of uniformity and fidelity.

9. Claims 8-10,14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher US 3521558 in view of Haller US 5344082.

Fisher is cited for the same reasons previously discussed, which are incorporated herein. Pre-charging using tribo-charging by a transfer pipe is not cited.

Haller teaches applying tribo-electrically charged powder to a substrate, using a device comprising a diffuser which forms a powder-entrained gas stream which travels downstream through a charging portion, and then the charged powder is dispensed through an outlet. The charging portion provides a tortuous flow path with undulating/ wavy surfaces on an electrically insulating material (same as “transfer pipe”) to enhance powder contact and imparting of a tribo-electric charge to the powder. The charging path is grounded to bleed off excessive charge. The charged particles are applied to substrates and heated to fuse/ coalesce the coating.

Since the “Description of the Prior Art” equates tribo and corona charging of particles, it would have been obvious to substitute the charging means of Fisher with that of Haller, with the further

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benefit of preventing the well-known and detrimental Faraday Cage effect on uneven substrate surfaces during coating.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the electrostatic powder coating of Fisher by substituting the charging means with the tribo-charging means of Haller because of the known equivalence of corona and tribo charging, and the further advantage of preventing Faraday cage effects with tribo-charging means.

### ***Response to Amendment***

The Examiner has considered Applicants' comments and amendments. The Examiner notes that Applicants state on page 11 that they agree with the Examiner's interpretation of the invention he discussed on the top of page 3 of the previous Office Action. Since the prior art rejections directly reflected that interpretation, the Examiner finds the recited prior art continues to render obvious Applicants' claims. The Examiner also points out the confusing nature of the claims as discussed under 35 USC 112 heading, and the Examiner made specific constructive suggestions for improvement should Applicants seek a continuation of this Application.

Applicants argue Fisher does not suggest a web substrate. In fact, col. 1, 34-43 teaches coating any planar or curvilinear surfaces, including those comprising flat sheet, and without limitation as to material. The skilled artisan would readily comprehend this description is inclusive of and generic to webs. Applicants argue the stencil is not suitable for coating uniformly and with complete coverage; such arguments are not commensurate with scope of claims which only require "coating" without further limitation, thus including Applicants' non-uniform coatings. If



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Applicants so intend, then it should be so stated and the method claims should be reflective of a coating process to apply coatings with uniform and complete coverage. They currently do not do so.

Applicants' arguments rebutting Haller fail to address the crucial point as previously noted that Haller explicitly states the equivalence of tribo and corona to charge particles so substituting one for another would have been obvious, the substrate being irrelevant as long as it is able to accept a charge, which is the case in both Haller and Fisher.

Contrary to Applicants' argument on page 12, Fisher clearly discloses upstream (precharging) electrodes 33 and downstream electrode 18,17. The meanings of the last 3 arguments on page 12 are unclear so the Examiner is unsure of how to respond.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

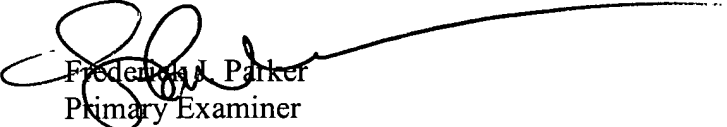
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Frederick J. Parker  
Primary Examiner  
Art Unit 1762

fjp